Exports of Petroleum Products in 1986

National Energy Board
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Executive Summary

In 1986, the petroleum industry faced one of its greatest challenges - the reduction in oil prices by approximately 50 percent. Freedom from administered oil prices and export controls allowed the industry to adjust to this reality without disruption of supply patterns. With respect to the exportation of petroleum products, the following identifies the highlights of 1986:

- Volumes
  - during 1986, exports of petroleum products averaged about 19 600 cubic metres a day compared to 21 500 cubic metres a day in 1985.
- Prices
  - average export prices for petroleum products compared favourably with spot product prices in the United States and with the average costs of product imports into Canada.
  - average export prices were consistently below Canadian rack prices.
- Industry Trends
  - Canada's trade in petroleum products continued to be widely distributed internationally. Exports were destined to 11 countries and imports occurred from 14 others in 1986. The United States continues to be Canada's largest export customer.
  - exports of petroleum products enabled Canadian refiners to sustain crude runs at 9 percent above levels necessary to meet domestic demand. Exports from the Atlantic Provinces and British Columbia accounted for 25 and 12 percent respectively of the feedstock processed in those regions.
  - truck imports of motor gasoline and middle distillate continued throughout 1986 and resulted in increased competition in domestic markets close to the United States border.

    in 1986, firms in British Columbia began exporting mixed cargoes of light products to Pacific Rim destinations.

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Exports of Petroleum Products in 1986

Introduction

Effective 1 June 1985, restrictive licensing of exports of petroleum products by the Board was replaced by a system of open orders, issued by the Board to registered oil exporters. This system was in place for all of 1986 and these export orders, available to both Canadian and foreign companies, specifying neither volume nor prices, authorize the exportation of petroleum products for a period not exceeding one year. The orders require that monthly reports be submitted to the Board specifying actual volumes sold into export markets and prices realized on these sales. These reports are necessary in order for the Board to fulfill its responsibility of monitoring exports of petroleum products and to provide advice to the Minister on this activity pursuant to the Western Accord.

The petroleum products requiring an export order from the Board include motor gasoline, middle distillate, aviation turbine fuel, heavy fuel oil and partially processed oil. The export of all other products and the import of any product can occur without authorization. The reduction in the regulatory burden associated with petroleum product exports and imports has facilitated Canada's expanded participation in international trade in petroleum products.

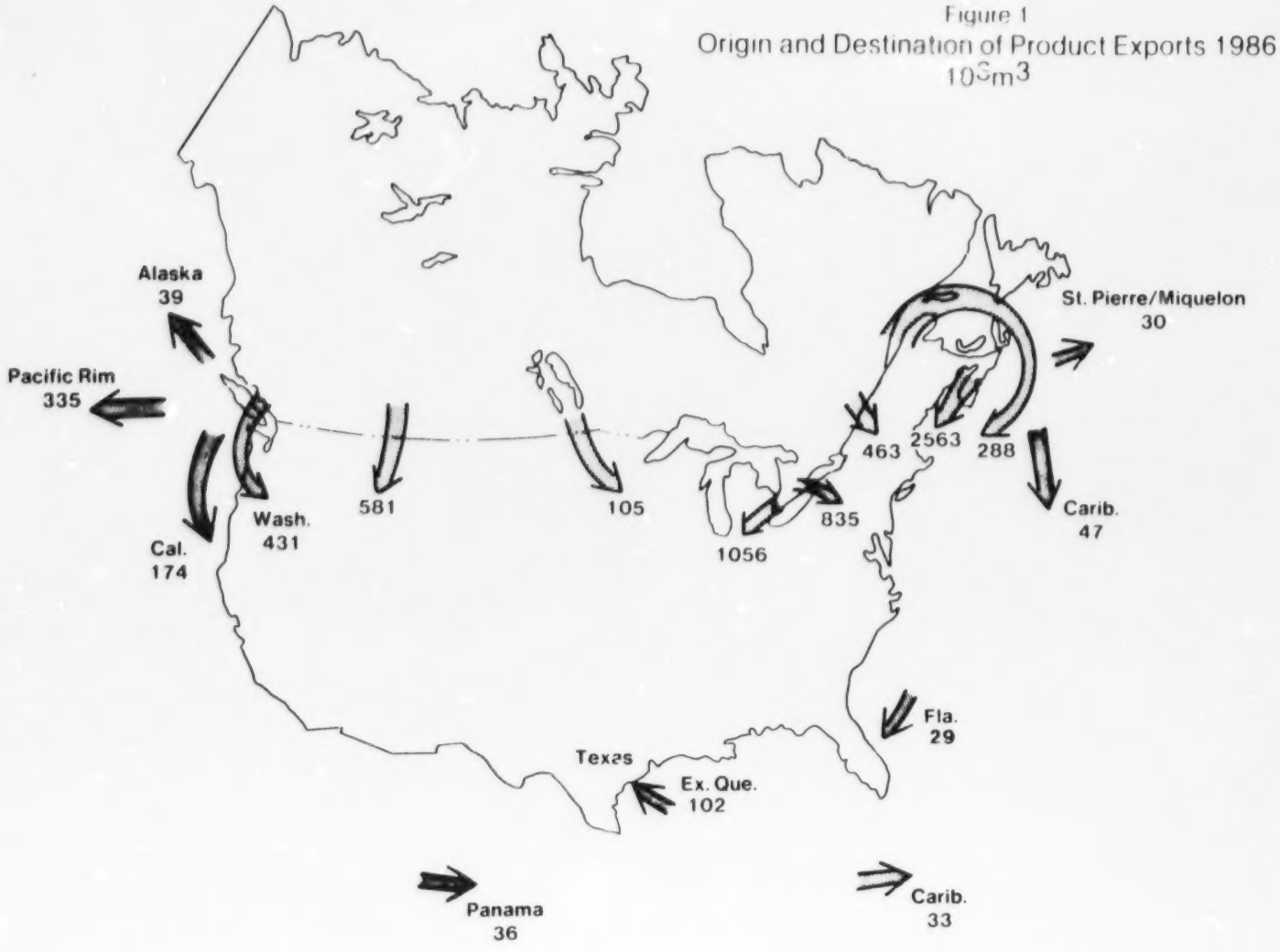
This report provides a review of the volumes and prices associated with the export of petroleum products in the calendar year 1986 including a brief discussion of petroleum product imports. The Board published a similar report in September 1986 which covered the period June 1, 1985 to May 31, 1986 - the first year of deregulation.

Canada's International Trade in Petroleum Products

Exports and imports of petroleum products play an important role in balancing Canada's supply and demand. Export sales contribute to the viability of independent marketers, help refiners increase crude oil throughput rates which results in more efficient use of their facilities and allows producers to increase their production of crude oil. Product exports are also often necessary for refiners to balance their operation in order to produce products required for use in Canada. Imports are made in order to supplement supply from domestic refineries and to take advantage of lower foreign prices when available. Imports and exports are important factors in maintaining the competitive nature of Canada's petroleum product markets.

In 1986, Canada sold petroleum products valued at about $1.1 billion to the 11 countries indicated below, however, the United States continues to be our largest customer as recipient of some 90 percent of our exports (see Figure 1). In the case of deliveries to the United States, 26 different states received Canadian products including all states bordering on Canada and all the New England and west coast states. Deliveries were also made as far away as Florida, Texas and Hawaii. Exporters in British Columbia are becoming particularly aggressive and are moving products to several United States, Pacific Rim and Caribbean locations.

Figure 1
Origin and Destination of Product Exports 1986
$10^3 m^3$



Destination Countries

Australia
Caribbean
Cuba
Japan
Korea
Netherlands Antilles
New Zealand
Panama
Samoa
St. Pierre et Miquelon
United States

Destinations by State in the U.S.

Alaska
California
Connecticut
Florida
Hawaii
Idaho
Illinois
Indiana
Kansas
Maine
Massachusetts
Michigan
Minnesota
Montana
New Hampshire
New Jersey
New York
North Dakota
Ohio
Oregon
Rhode Island
Texas
Utah
Vermont
Washington
Wisconsin

With respect to imports of petroleum products, the United States and Venezuela continued to be Canada's major offshore suppliers in 1986. In the case of imports from the United States, the majority of cargoes delivered into eastern Canada originated from the Gulf coast although others came from New York, New Jersey and California. Product imports to Canada last year were sourced from 14 different countries including:

Algeria
Belgium
Brazil
France
Greece
Israel
Italy
Netherlands
Soviet Union
Spain
Trinidad
United Kingdom
United States
Venezuela

Export Volumes

In 1986, exports of petroleum products averaged 19 600 cubic metres a day compared to 21 500 cubic metres a day in 1985. The 1986 product exports accounted for 9 percent of the feedstock processed in Canadian refineries and were valued about $1.1 billion.

As can be seen from Figure 2 there was a somewhat different pattern of product exports in 1986 compared to 1985. In 1985, the largest exports occurred during the February to May period as exporters took final advantage of the rebates of the petroleum compensation charge and the Canadian ownership special charge on volumes of products exported. In the early months of 1986, less product was exported because oil prices were dropping dramatically and oil markets were in a state of turmoil. The seasonal closure of navigation on the Great Lakes during the first quarter was also a contributing factor with respect to reduced exports from Ontario.

Export levels of petroleum products were more stable in 1986 than in 1985 ranging from a high of 25 000 cubic metres a day in September to a low of 15 500 cubic metres a day in January. In 1985, export levels had much larger swings peaking at 35 000 cubic metres a day in May but declining to 10 000 cubic metres a day in June. A contributing factor to the high level of exports in September, 1986 was the offshore sales of aviation turbine fuel which were greater than at any time since the introduction of deregulation in June 1985. Cargoes were shipped from both coasts to destinations in the United States and other locations in the Pacific Rim. In December, exports rose to about 24 000 cubic metres a day as large movements were made from the Atlantic Provinces and from Ontario prior to the closure of navigation on the Great Lakes.

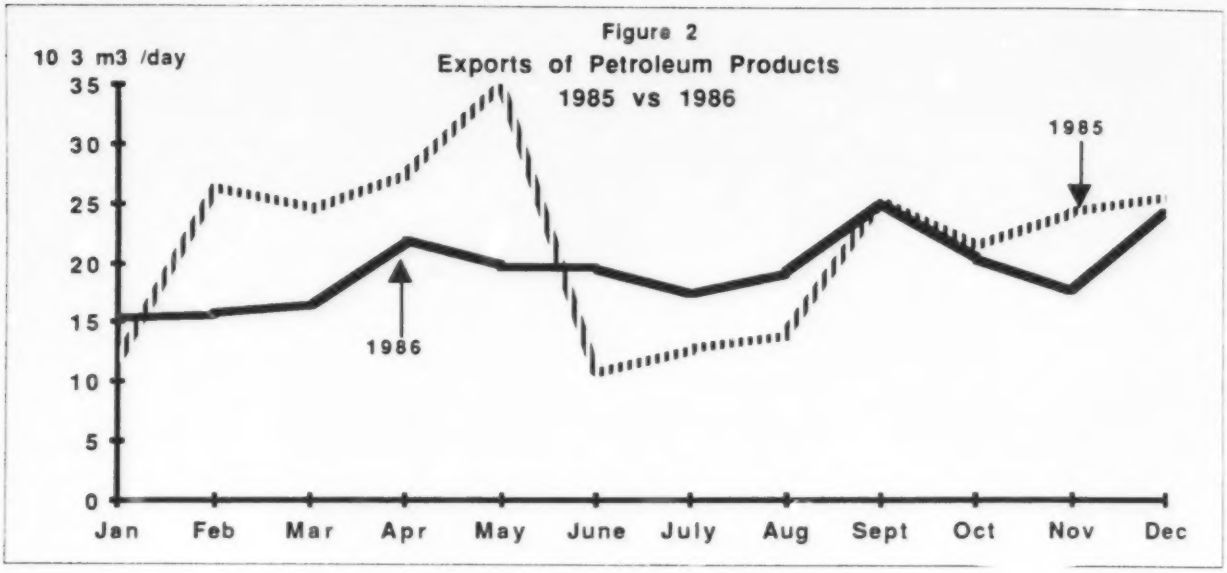


Table I indicates the exports of particular products from each region of Canada in 1986. Exports from the Atlantic Provinces represented 37 percent of the total product moved to foreign destinations and 25 percent of the feedstock processed in the region, largely the result of a foreign processing arrangement. Ontario ranked as the second largest region of export with 28 percent of the volume delivered. Exports of some 1 048 000 cubic metres from British Columbia were very important to the viability of that province's refining industry accounting for 12 percent of the feedstock run. Exports of 686 000 cubic metres from the Prairies were less important to this region and represented only 4 percent of refinery crude runs.

Table 1
Exports of Petroleum Products by Region in 1986
(Thousands of Cubic Metres)

Province	Motor Gasoline	Middle Distillate	Aviation Turbine Fuel	Heavy Fuel Oil	Partially Processed Oil	Total
Atlantic	1 051	1 349	95	17	-	2 669
Quebec	33	287	-	288	137	745
Ontario	409	711	-	869	9	1 998
Prairies	226	306	109	45	-	686
B.C.	378	355	286	-	29	1 048
Total	**2 097**	**3 008**	**490**	**1376**	**175**	**7146**
Total ($10^3m^3/d$)	**5.8**	**8.2**	**1.3**	**3.8**	**.5**	**19.6**

More middle distillate was exported than any other product accounting for 42 percent of the total volume exported; motor gasoline at 29 percent was second. Smaller volumes of aviation turbine fuel and partially processed oil were sold into export markets. However, it is interesting to note that in the second half of 1986, exports of aviation turbine fuel began to grow and some companies appear to have developed some regular customers for this material. No exports of aviation turbine fuel were made from Ontario or Quebec as those provinces generally have little or no spare jet fuel refining capability. As in the past, Ontario continued to be the largest exporter of heavy fuel oil. Last year over 200 000 cubic metres of heavy fuel oil were shipped from Ontario to east coast United States locations; this is a new market being served by Ontario origin material since the introduction of deregulation.

Import Volumes

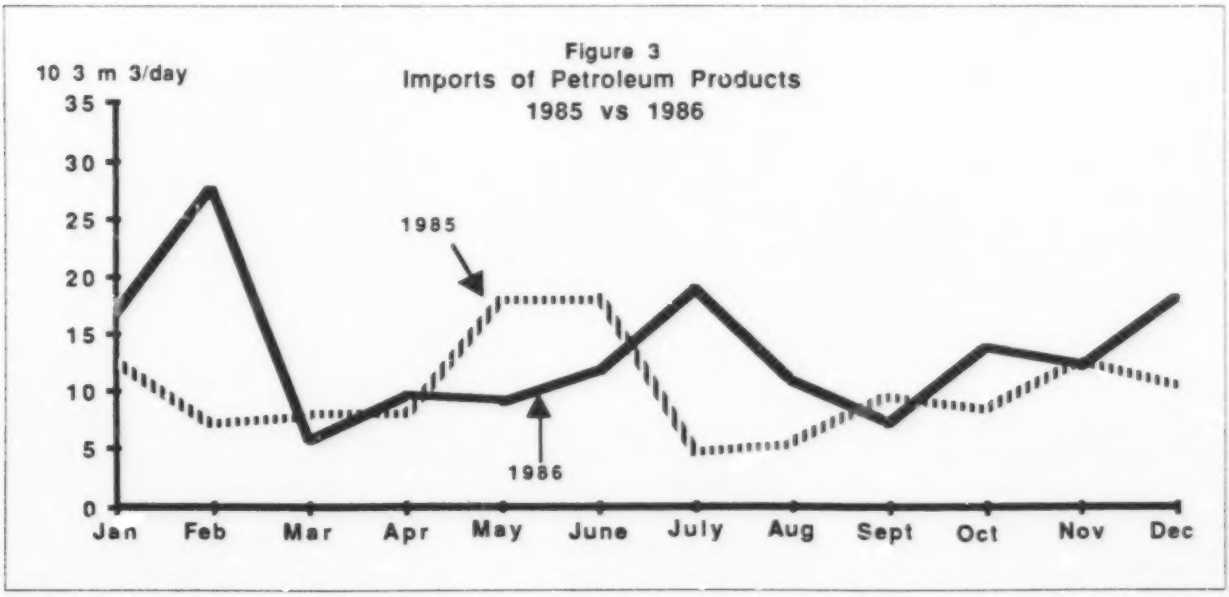
In 1986, imports of petroleum products increased to 13 500 cubic metres per day from 9 600 cubic metres a day in 1985 (see Figure 3).

In 1985, product imports peaked in May and June as companies attempted to maximize the advantages of the oil import compensation program by increasing their May 1985 loadings for importation in May and June. Imports fell after June but rose again in the fourth quarter when companies shipped cargoes into Quebec before the ice build-up in the St. Lawrence River.

There were large volume swings in product imports during 1986 from a high of 27 600 cubic metres a day in February to a low of 5 900 cubic metres a day in March. The February imports were primarily of heavy fuel oil into the Atlantic Provinces and light products into Quebec. Importers sought to obtain lower priced products available offshore at the time when oil prices were falling rapidly in the first quarter of 1986. Imports also increased to balance supplies following the closure of Gulf's Montreal refinery. Imports generally remained under 10 000 cubic metres a day until July when large volumes of gasoline and aviation turbine fuel were brought into Canada causing July's imports to reach 19 000 cubic metres a day. As was the case in 1985, imports into eastern Canada increased during the fourth quarter as a result of increased import volumes of distillate, heavy fuel oil and aviation turbine fuel.

In 1986, imports of aviation turbine fuel increased by about 190 percent over 1985. Imports were made into Quebec, Ontario and British Columbia as certain companies secured lower priced offshore supplies. In addition, truck imports of light products occurred in virtually every month in 1986, especially into Ontario. The volumes of these imports were dependent on the relative price relationships in the markets at border locations. These imports had a significant impact on the rate at which domestic markets reacted to price changes in the United States.

Figure 3
Imports of Petroleum Products
1985 vs 1986



Exporters of Petroleum Products

During 1986, 34 companies exported a total of 7 146 000 cubic metres of petroleum products. Irving Oil was the largest exporter shipping out about 35 percent of the total which was about double the volume of the second ranked company, Imperial Oil. Eight of the top 12 exporters were refiners accounting for 86 percent of the material moved. The table below lists the top 12 exporters and the volume sold compared to the top 12 exporters in our earlier report entitled 'Exports of Petroleum Products-The First Year of "Deregulation" in Review' dated September 1986.

It is significant to note that three refiners dropped from the top 12 list of exporters in 1986 - namely Ultramar, Texaco and Gulf. These were replaced by The 300 Group, Universal Terminals and Comtrade, all of which are non-refiner independent marketers.

Fewer companies were involved in export sales in 1986 than during the period covered by our previous report. Some of the firms that ceased exporting had only moved minimal volumes while others concentrated their efforts on importing favourably priced gasoline and distillate by tank truck, rather than exporting.

Export sales continued to be an important alternative sales outlet for independent marketers and contributed to increased sales volumes by these companies.

Export Prices

As previously stated, Canadian exports of petroleum products are made from every region of the country to many diverse markets. This leads to a variety of export returns being enjoyed which depend on the particular circumstances faced by each company for each product. Significant factors affecting returns included an exporter's geographical location, the prices in export markets at the time a firm has product available to move, and the type of product available from marginal increases in crude runs.

It is worth mentioning that, in 1986, exports sold into distant markets often offered returns approximating or exceeding those of sales made into adjacent United States markets.

Top 12 Exporters

June 1, 1985 to May 31, 1986		1986	
Exporter	**10^3m^3**	**Exporter**	**10^3m^3**
Irving Oil Ltd	1 526	Irving Oil Ltd.	2 485
Imperial Oil Ltd.	1 289	Imperial Oil Ltd.	1 333
Shell Canada Ltd.	798	Shell Canada Ltd.	896
Petro-Canada Inc.	620	Petro-Canada Inc.	424
Sunoco Inc.	318	Polysar Petro-Chemicals	328
Olco Oil	308	Olco Oil	281
Polysar Petro-Chemicals	274	Sunoco Inc.	278
Ultramar Canada Inc.	259	Turbo Resources Ltd.	199
Chevron Canada Ltd.	218	Chevron Canada Ltd.	186
Turbo Resources Ltd.	200	The 300 Group	158
Texaco Canada Inc.	157	Universal Terminals Ltd.	121
Gulf Canada Corp.	140	Comtrade Petroleum Inc.	116
Others	765	Others	341
Total	**6 872**	**Total**	**7 146**

Export prices have been averaged which highlight the general price patterns during 1986 rather than concentrate on certain prices of particular exports which may vary for the reasons indicated above. The same procedure was done with respect to import prices.

Average Export Prices

Figure 4 summarizes the average export prices for motor gasoline, middle distillate and heavy fuel oil. Average export prices for all three products fell during the first quarter when crude oil commenced its dramatic price decline, but began to stablize in April and May. These prices did not change significantly during the balance of the year.

Average export prices for middle distillate were above those for motor gasoline during the first quarter but fell below the gasoline price from April through September after which the average export prices were about the same for the two products until December when the distillate price was $9 a cubic metre higher than the gasoline price. This follows the normal price pattern for these products.

In the case of motor gasoline, the average export price dropped from a high of $261 a cubic metre in January to $149 in March. The price firmed somewhat during the second quarter, when gasoline prices are normally strong, reaching $181 per cubic metre in June after which it tended to drift downwards reaching a low of $145 a cubic metre in October. In December, the average export price for gasoline approximated that prevailing in March, $146 a cubic metre.

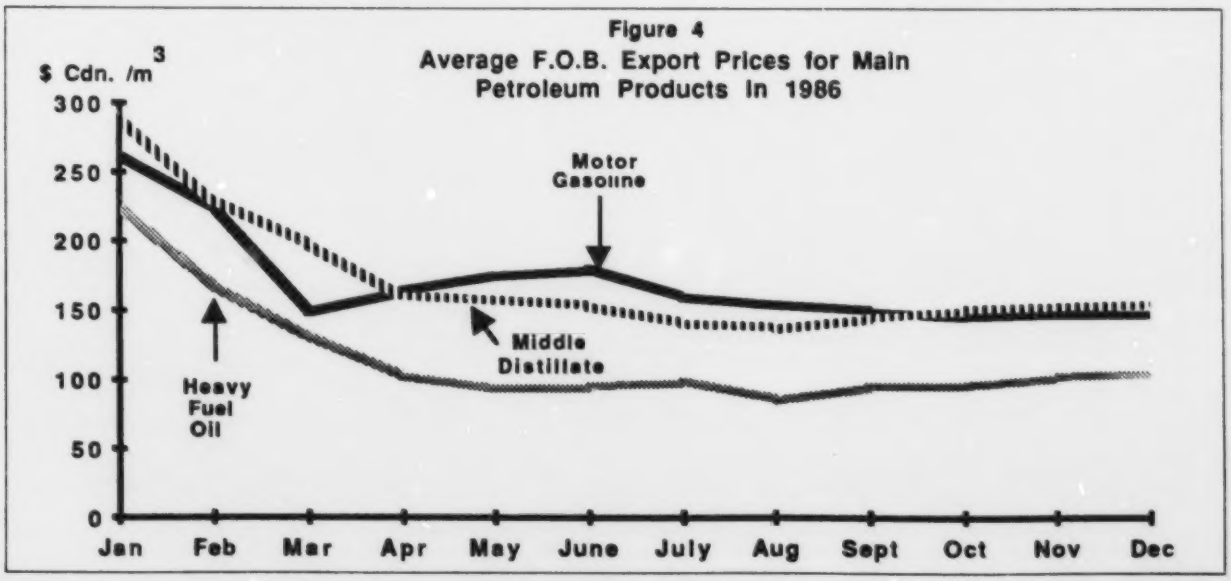
With respect to middle distillate, the highest prices were again recorded in January at $288 a cubic metre. From that point, averge export prices decreased steadily to a low of $137 per cubic metre in August after which prices recovered to about $155 a cubic metre.

Prices for heavy fuel oil were always below those for light products which is consistent with heavy fuel being a by-product of refinery operations. Heavy fuel prices dropped from $223 a cubic metre in January to a low of $88 per cubic metre in August. From April to November, average export prices fluctuated within a narrow band ranging from $88 to $102 a cubic metre.

Average Export Prices versus Average Import Costs and Average Spot Prices in the United States

Canada is an exporter as well as an importer of petroleum products. Thus, in any review of Canadian export prices, it is appropriate to compare costs faced by importers with the prices obtained by exporters. The United States is Canada's major export customer and exports generally compete against spot product prices in the United States market. Spot prices normally

Figure 4
Average F.O.B. Export Prices for Main Petroleum Products In 1986



relate to cargo or pipeline quantities. However, tank truck deliveries from Quebec, Ontario and the Prairie Provinces are increasingly being made at export prices competitive with United States spot prices, rather than with the United States tank wagon prices related to much smaller quantities. The 'Oil Price Information Service' carries average United States spot prices for motor gasoline and No. 2 fuel oil and we have used these data in the following price comparisons.

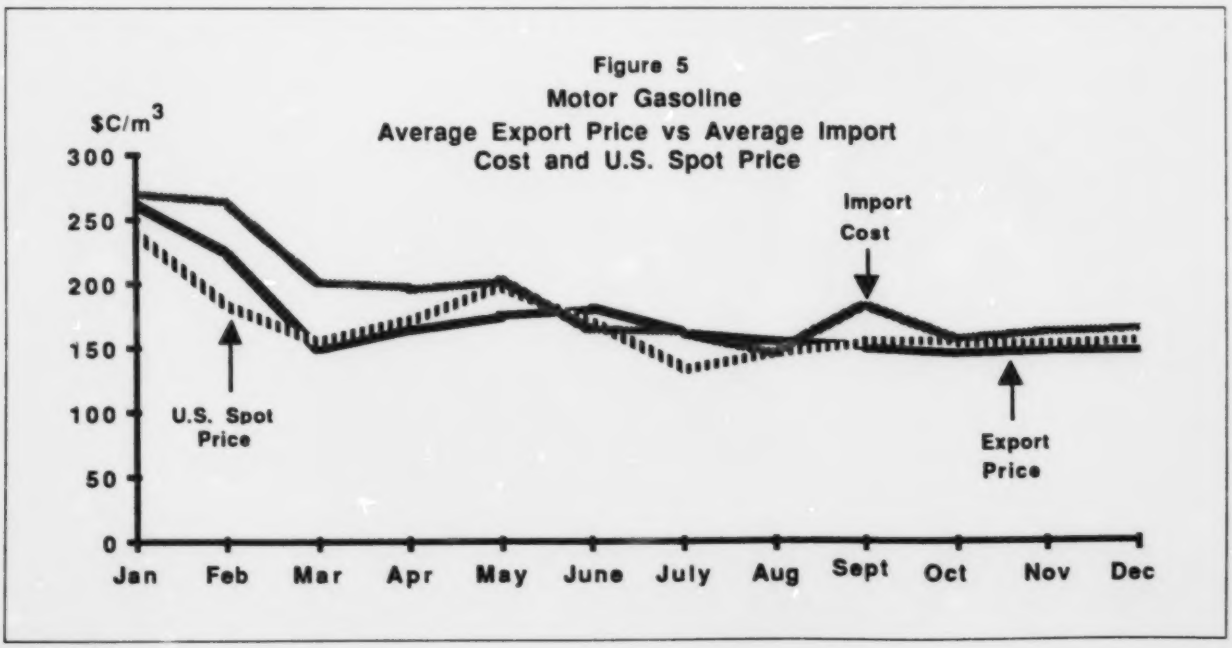
A comparison of average export prices against average import costs and average United States spot prices provides a useful benchmark against which to measure the reasonableness of Canadian export prices in 1986. Nevertheless, it should be borne in mind that these average prices as illustrated in Figures 5, 6 and 7 are directional in nature and do not reflect actual differentials pertaining to particular transactions.

Motor Gasoline

Figure 5 displays the average export price for motor gasoline, the average import cost of gasoline and the average United States spot price for unleaded gasoline. We chose to use the spot price for unleaded gasoline because virtually all of the gasoline exports to the United States and imports into Canada were of this grade although, from time to time, some leaded gasoline and gasoline blending components were moved in and out as well.

In 1986, the average export price of gasoline was generally below the average import cost. This was most apparent in the January to May period. However, it should be noted that the import costs include an amount for freight and insurance while the price of exports is reported on a f.o.b. basis. The spike in the import cost in September was the result of relatively small volumes imported by tank truck and were delivered directly to retail outlets.

Average export prices and average spot prices south of the border were very close during the past year but certain trends emerged. In a falling market such as occurred in January and February and June and July, export prices were higher than United States spot prices but in the second quarter when prices were rising, export prices were marginally below the spot prices.



For the total year, the average export price was $172 a cubic metre compared to an average United States spot price of $167 a cubic metre and an average import cost of $187 a cubic metre.

Middle Distillate

Figure 6 compares the average export price for middle distillate with the average import cost of distillate and the average spot price for No. 2 fuel oil in the United States.

Last year the average export price for distillate was below the average import cost in every month with the exception of November but was little different in July and August. The biggest differences occurred in April when a relatively high priced cargo of distillate was imported into Ontario and in May when only tank truck imports were made. As was the case with gasoline, there was a spike in the September import cost. This was caused by a higher priced import made into Quebec during that month.

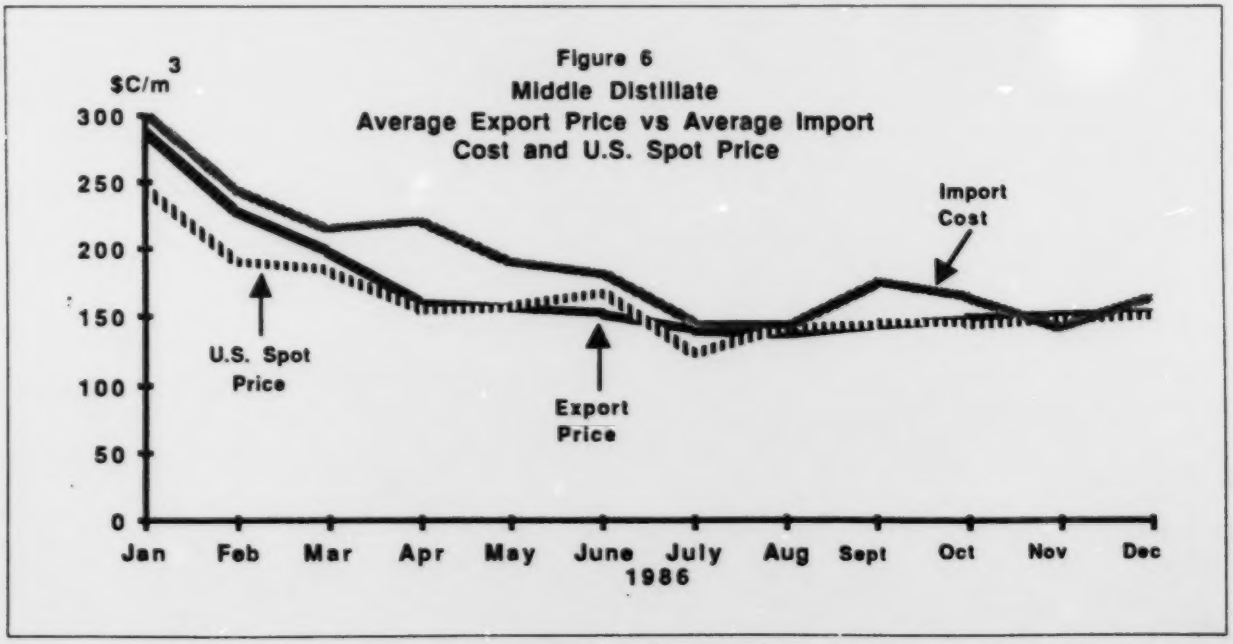
During the first quarter, the average export price was higher than the spot price for No. 2 fuel in the United States but from April to the end of the year there was little difference between these two prices.

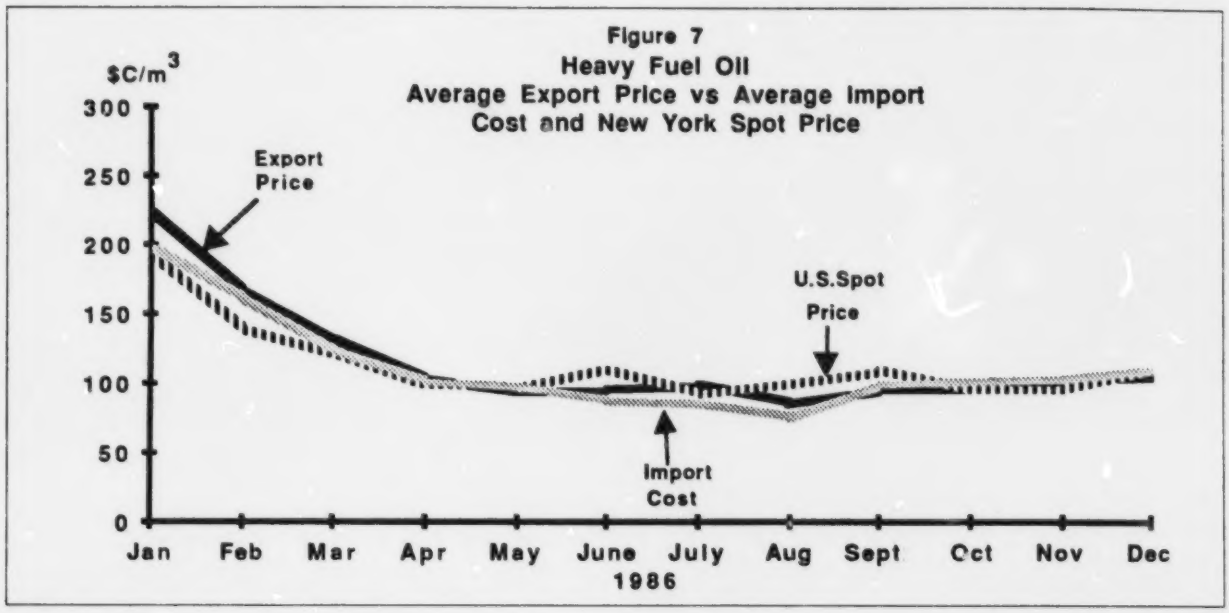
For all of 1986, the average export price was $170 a cubic metre with the average import cost being $192 a cubic metre and the average spot price for No. 2 fuel in the United States being $164 a cubic metre.

Heavy Fuel Oil

The Oil Price Information Service does not carry an average United States spot price for heavy fuel oil. In the preparation of this report we have used the New York spot price for 2.2 percent sulphur material as reported by Oil Buyers' Guide. Figure 7 shows the average export price and import cost of heavy fuel oil along with the New York spot price for heavy fuel.

Figure 6
Middle Distillate
Average Export Price vs Average Import Cost and U.S. Spot Price





In 1986, the average export price for heavy fuel was marginally higher than the average import cost and was marginally higher than the New York spot price about half of the time. The three prices were very close throughout the year and no other price trends are readily apparent. For the total year, the average export price and New York spot price were about $112 per cubic metre and the average import cost was $118 a cubic metre. It should be noted that the average import cost for the year is influenced by higher import volumes in the early months of 1986 when prices were higher.

Export Prices versus Rack Prices

Coincident with the introduction of deregulation on 1 June 1985, Imperial Oil introduced "rack pricing" for the pricing of certain light petroleum products. Other companies soon adopted rack pricing as well including Shell, Ultramar and Sunoco with Petro-Canada following early in 1987. In order for a customer to qualify to lift product at rack prices, some companies have imposed annual volume criteria ranging from 20 to 30 million litres in the case of motor gasoline and diesel fuel and 10 to 15 million litres for furnace oil.

Rack prices are reported regularly in trade press publications and provide a convenient measure of current prices in domestic markets. In addition, they are net of federal sales and excise taxes and provincial sales taxes hence they can readily be compared against reported export prices.

At the Restrictive Trade Practices Commission (RTPC) Inquiry that reviewed rack pricing in October 1985, it was explained that most export customers subscribe to 'Telerate' which is an on-line computer system where customers have a terminal in their offices that indicates current selling prices for petroleum products. It was stated at the Inquiry that the rack prices go into Telerate and these represent export prices with no discounts being offered from these prices.

Against this background, we examined average export prices against average rack prices. For the purposes of illustration we have used exports from Ontario and the rack price for Toronto. We have also reviewed average export and rack prices in other regions of the country and they generally follow the pricing patterns exhibited by Ontario.

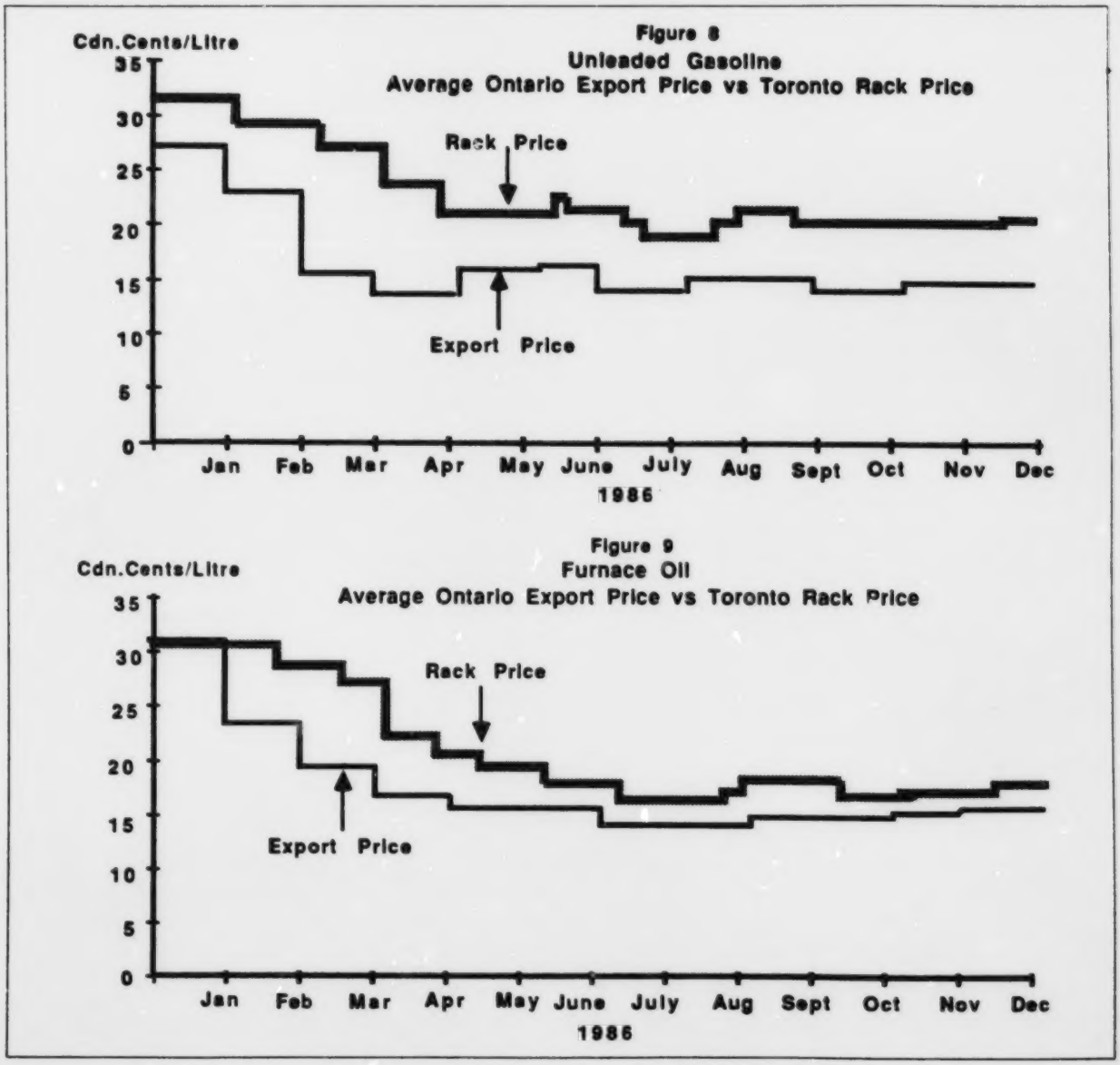
Motor Gasoline

Figure 8 displays the average rack price for unleaded gasoline at Toronto against the average price of exports of gasoline from Ontario.

Figure 8 clearly shows that in 1986, average export prices were consistently below rack prices. The difference between these two prices was largest during the February to April period when it ranged from 7 cents per litre ($11.13 a barrel) to 12 cents per litre ($19.08 a barrel). It was during these months that oil prices fell dramatically. By May, when oil markets began to stabilize, the difference decreased to 5 cents per litre ($7.95 a barrel) and stayed at the 5 to 6 cents a litre level for the balance of the year. In February and March, the media focused attention on the large difference between rack and export prices and the Manitoba government launched an inquiry to study the pricing of petroleum products in that province.

Middle Distillate

Figure 9 illustrates the average price for exports of middle distillate from Ontario and the average rack price for furnace oil at Toronto. With the



exception of January, the average export prices were lower than the rack prices in 1986. As was the case with gasoline, the largest differences between these prices occurred in the months of February to April with March experiencing the largest difference of 8 cents per litre ($12.72 a barrel). However, the differences between the export and rack prices for distillate were less than the differences between these prices for gasoline. By May the difference had closed to 4 cents per litre and in July, August, October and November the difference was reduced to 2 cents a litre.

Heavy fuel oil is not included in the rack pricing system, hence, no comparison was made for this product.

Summary of Export Prices

A key factor that must be taken into account when reviewing prices realized from the sale of any commodity is that a seller can only expect to charge what the market will bear. In the case of exports of petroleum products from Canada to its largest export customer, the United States, spot prices for products in that market are a relatively good indication of the prices that exporters should expect to receive.

Against this measure, we believe that the export prices obtained by exporters in 1986 were reasonable. During the course of the year there were occasional distress sales that realized low returns but such sales are a normal occurrence in the petroleum industry. They can arise, for instance, when companies face operating problems in terms of refining, storage and marketing. However, these distress sales were, from time to time, counter-balanced by exporters obtaining more attractive prices on some sales because of certain unique market opportunities.

Typically, oil products were exported in 1986 at below Canadian rack prices. This implies that:

1. Canadian domestic wholesale prices were on average higher than those in the United States; but
2. it was still economically attractive for Canadian companies to export at prices reflective of those lower levels in the United States; and
3. it was also economically attractive to import light products.

A Summary of 1986

Petroleum prices decreased by approximately 50 percent during the early months of 1986. Prices bottomed out in July and recovered somewhat in August and December as a consequence of the two OPEC production and price agreements that occurred in those months. The current system of Board export orders, with no volume or price restrictions, enabled the industry to adapt to these rapidly changing prices.

Exports of petroleum products were relatively constant in 1986 at about 19 600 cubic metres a day, marginally below the 1985 level. Product imports rose to 13 500 cubic metres a day last year from 9 600 cubic metres a day in 1985 but continued below the level of exports. Canada remains an active international trader of petroleum products exporting to 11 and importing from 14 different countries.

Exports of petroleum products are an important activity contributing to the economic well-being of both refiners and independent marketers. Product exports enabled Canadian refiners to increase their runs by 9 percent in 1986. Four independent marketers were ranked in the top 12 exporters and three of these firms displaced refiners who had formerly been in the top 12 product exporters.

Truck imports of motor gasoline and middle distillate commenced early in 1986 and continued throughout the year. This activity contributed to price competition in markets served by such imports, in particular southern Ontario. Refiners claim that, because these imports were made during the months when oil prices were falling, they were obliged to reduce product prices earlier than would normally have been the case or earlier than justified by the 90 days of inventory held in the Canadian distribution system.

Exporters in British Columbia have identified an opportunity of exporting products to Pacific Rim countries. These exports are increasing in importance as mixed cargoes of light products, often loaded from more than one refiner, are being delivered to Pacific destinations.